ERICSSON, J. ALS 4.1.58.

75

New York April 1st 1858

My Dear Sir

I have had a very pleasant & satisfactory interview with Mr Wait this morning - He no doubt was out to propound the great theories built up in Baltimore, but the writer, who can on a pinch take the wind out of an opponents sails, silenced and convinced the man so effectually that he had not a word to say - Mr W. insists upon it that Mr Stimpson being "first on the list" is entitled to the first 24 inch engine that we complete - I promised & do all in my power for his friend -

We had a long discussion on the power of the present engine and the amount of work ultimately to be done, which I will relate when we have time. Mr. W. returns to Baltimore at once -

Yours very truly

J. Ericsson

J. Ericsson Esq
April 1. 1858

DSI

ERICSSON, J. ALS 7.13.58.

100

draft

July 12th 1858

My dear Sir.

With a renewed admiration of our Calorie Vessel yesterday made 19½ & 20 turns of the Screw - turning the entire readily - Under my 42 turns with perfect regularity of rotation although the water was so rough as to prevent a proper trial being made -

I have ordered a further Stroke of the bucket to day in order to admit of full quantity of air being taken in - I shall dare I shall find the opposition to the Screw of Bay Ridge - Subject to examining the case closely cannot make out that Mr Flagg has embodied any of his Comments -

Yours truly

J. Ericsson

83

DSI

April 30th 1858

My Dear Sir 8½ A.M.

I am now going up to the foundry to see about a new Lever for Mr Sleepers' engine — I will strengthen it — The new 12 ins engines will not be liable to the trouble we have so far experienced.

I have an entire fresh proposition to make in regard to your little boat. Pray let me ask why do you go to the expense and trouble of altering the engines of the old boat? Is it not altogether injudicious and useless? Of course I take for granted that you have sold it and that you are going to part with it.

Yours very truly

J. Ericsson

John Ericsson
April 30th 1858

DSI

Jan. 3d/59

My dear Sir

I trust you will excuse the Superintendent at Waltham today - Tell him that his grate is well on the grind Room given way on account of over fining Shall have not got that in other part - I suppose on the mind of the Man afficial the absolute necessity of not allowing the fine over the get as high as the top of the fine brick, and tell him to put in a slab of Soapstone, which he will find inde structible - If you have a bit of Soapstone and then by all means and charge for the same and also a new grate if Plans or Drafts can furnish one - We will make a new Rattens for grate as we have passed what we want.

The Waltham engine has so little to do that it seems to be regretted that the fine should have been urged at all

Yours truly

J. Emerson

DSI

J. Ericsson
June 30th 1862

75
ST

New York June 30. 1862.

Messrs Lazelle Perkins & Co.
Bridgewater. Mass:

Dear Sirs,

I enclose drawing of three wrought iron beams for a target which I have promised to make for the Navy Department, in great haste. Please forge these beams of your most malleable iron. Inserted between a series of one inch plating these beams will have to stand very heavy firing, hence you must give me your best iron.

Please send the beams, when forged and planed, to the Delamater works and inform me by return of mail, when I may expect the same. The planing may be rough but must be accurate in every respect.

Yours truly

J. Ericsson

As soon as the Ship and machinery are again in serviceable condition I shall not lose a moment in performing the agreeable task of rendering the proposed account of the invention. In the mean time I have to state that when the noble ship went down the motive power had proved completely successful. The engines had not been put to any thing like maximum work and yet we attained a speed of more than eleven miles an hour, with a consumption of fuel which promises to render Ocean Navigation, in point of economy, what it has already proved in point of celerity.

I am
Very respectfully
Your obed.t Serv.t
J. Ericsson

To
The Editors of the
Evening Post

DSI

ERICSSON, J. ALS 5-5-55

40'

May 5th 1855

My Dear Sir

I shall have presented to me the manufacturers bill next Monday or Tuesday and it is quite indispensable to pay at once - By noon of Tuesday you must therefore place me in funds - The bill cannot be less than $(400) a mere trifle to one of your great financial powers -

We have made an unprecedented start so that with next month our expenses will be considerable - Pray bear this in your mind - Such pushing

Is this 7-4- or 2-3 ——

DSI

as Messrs Birkbeck & Forman are subjected to must be backed by infallible weekly payments — That cheapness attends rapid work in making you know by this time — Our pushing will therefore insure saving in cost — I hope you will give me a call on Monday that I may have your assurance that lubrication will not be wanting during the rapid movements — Yours very truly

J. Ericsson

The Made Engine is now at last progressing in fine style —

(Inventor) the inventor & originator of "Iron Clad" Gunboat (Ericsson)

New York June 11. 1862

My Dear Sergeant

I have your pleasing telegram and thank you cordially for taking the trouble to send me the good news in advance of the mail - I am quite delighted indeed the intelligence reaches him as he wanted so long to induce certain great Progressives to do something for the national engineer.

We are making rapid progress with the Iron Clads - Six additional & the 9 monitor vessels can float two very large ships, in the same plan, will be built at once - I shall build well absolutely and permanently be kicked from the new authority in Gen.

Yours truly

J. Ericsson

Hon Sergeant &c

Hon James F. Wells -

180

Nov. 28: 1847

My Dear Son

With a 5 foot column and the jump in addition to 15 feet Suction and the resistance caused by 100 feet Suction, our 8 inch pump should bring a 24 inch engine to a dead stand — 6¾ inch pumps in which the engine should be fitted with to do the work with a small Jens, such I am inclined to advise a 7 inch pump though that demands great attention to the Jens and good working order because indispensable as 7 inch pumps will throw 1⅞ gallons for strokes without allowing any thing for loss in the return — At 36 turns that would give 68 gallons per minute Time 60 = 4080 or 4000 gallons per hour Time 8 turns = 32000 — It would appear therefore that the appropriate size 6 7/8 inches might be given to the pump and a little longer Jumping return to it — But you know in no manner objectionable as known working on engine under maximum load in unfavorable practice — Hence like you pump down to 6 3/4 inches and do not with a view more pumps

Yours

L. Ericsson

150

New York December 12. 1885.

My dear Sir.

In reply to your query: "Have you sent, or shall you send any copies to the press of New York and other cities." I beg to inform you that I deem publicity injurious. My impression was that you intended the pamphlet only for Congress, hence at our last interview I cordially approved of your concluding sentence, which asserts that submarine artillery demands further test. The fact is that the Destroyer is now ready to meet an assailant. Should Congress, as is most probable, refuse to purchase the Destroyer, our intention is to form a Company for building Destroyers. I need not urge that such a Company cannot be formed unless the Destroyer is now deemed a perfect invention. No prudent merchant would take a single share in the proposed enterprise with the concluding paragraph of your book before his eyes.

I am much obliged for your suggestion regarding Senator Randall and the Secretary of War, but I propose to place the matter entirely in the hands of Senator Cragin. I shall however deem it a great favor if you will state your views to that gentleman.

Yours very truly

L. Chamberlain

Lieutenant W. H. Jaques, U.S.N.
Washington

Received		Answered
Dec 13 1885	Wash. D.C.	188

197-6

J. Ericsson

REGULAR FILE.

DSI

that the motive engine of the Monitor was built under a patent which I obtained several years before the rebellion, but in settling with the Navy Department, I did not charge royalty for the same.

Yours very respectfully

J. Ericsson

R. W. Johnson Esq

A. Snedden July 21, 1863
A. Ng. March 8, 1884

June 1st. 1860

My Dear Sir

Pirante's big mill was made by the "Bordentown Machine Company" Bordentown N.J. The small mill was furnished by a machinist down town, whose name I have forgotten — If you send to Pirante office they can tell you the makers name and address.

If you cannot keep an engine in order next door, it is fair to assume that it is badly made or badly worked — The trouble I take it is simply excess of draught which enables the driver to work too hot a fire — When you say that 25 pounds pressure is used you mean inches of mercury or 12½ lbs We found during our trials and Orr reported that with 6½ or 7 lbs the machines worked well at first. Our friends have got their ideas up and now like more speed and hence desire 12½ lbs pressure —

Mr Eily left Carkarts two or three weeks ago and is now in Boston unless he has been induced to return which I cannot believe — What could I do by looking at

the engines at Carhartt? I have not a solitary suggestion to make whilst I am astounded at the duty performed by those engines — Red hot heaters all the time I suppose explains the mystery.

As you say you are in treaty with other ship owners, I send you the plan of Susan Howland's fix that you may be able to speak understandingly on the subject. I have given a copy to Banks to work from. Only look at the plan and return it by the bearer as it must be on board the Ship to day at 12 o'clock, our friend Captain Adams being desirous to show this Bosses what a fine fix we are getting up —

All is now in hand. Delaneater makes the driving crank link as attached & the engine charging as usual. Banks furnishes the hoister for the same price as charged for the Panama's the Long pump axle with Links for working pumps Gipsy &c he delivers on board ready for putting up at 8 cents a pound weight all round —

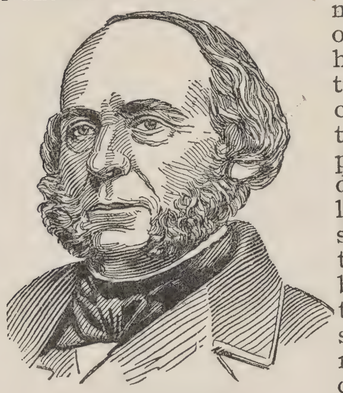
Captain Adams understands that the engine will not be sent on board until Monday morning and will not feel impatient.

I will give you copy of the plan now sent that you may have something to exhibit to those you approach in relation to ships —

Yours truly
J. Ericsson

Ericsson (*ĕr'ik-son*), **John,** a great Swedish engineer, was born at Langbanshyttan in 1803. He entered the Swedish army, but left it after several years' service, to give his entire time to his inventions. He gained a prize in England for the best locomotive; and the principle which he introduced, of making a draught artificially so as to do away with the huge smoke stacks which had been in use, is still employed. He invented soon after a steam fire engine, and the screw-steamer. In 1839, he came to the United States, and designed the warship *Princeton*, the first steamer that had her engines and boilers below the water line, so as to be out of the reach of shot. During the Civil war,

he planned and built for the government the ironclad vessels, called monitors, from the name of the first one. These ships had a turret that turned by machinery, so that the guns could be pointed in any direction. Though laughed at by sailors, who called them a "cheese box on a raft," they were very successful and formidable, and became famous all over the world.



JOHN ERICSSON.

Among his numerous inventions, are a gauge for measuring fluids when under pressure, an alarm barometer, a meter to measure the quantity of water which passes through a pipe, a pyrometer, an instrument for taking distances at sea, and a sea lead for taking soundings. His inventions have entirely changed both the navigation and the navies of the world. He died at New York, March 8, 1889. By his own wish, he was buried at his birthplace, a Swedish war vessel coming to escort his body home, which was sent by the United States government in the man-of-war *Baltimore*. A statue is to be erected to his memory at Stockholm. See *Life*, by W. C. Church.

JOHN ERICCSON CLUB HOLDS PAGEANT

3/9/1939

Commemorates Battle Between Merrimac and Monitor

With pageantry that combined patriotic traditions of the United States and Sweden, the anniversary of the naval battle between the ironclad Merrimac of the Confederacy and the Monitor, the Union's "cheese-box-on-a-raft," was commemorated last night by the John Ericsson Republican Club of Massachusetts in the ballroom of the Women's Republican Club, 46 Beacon street.

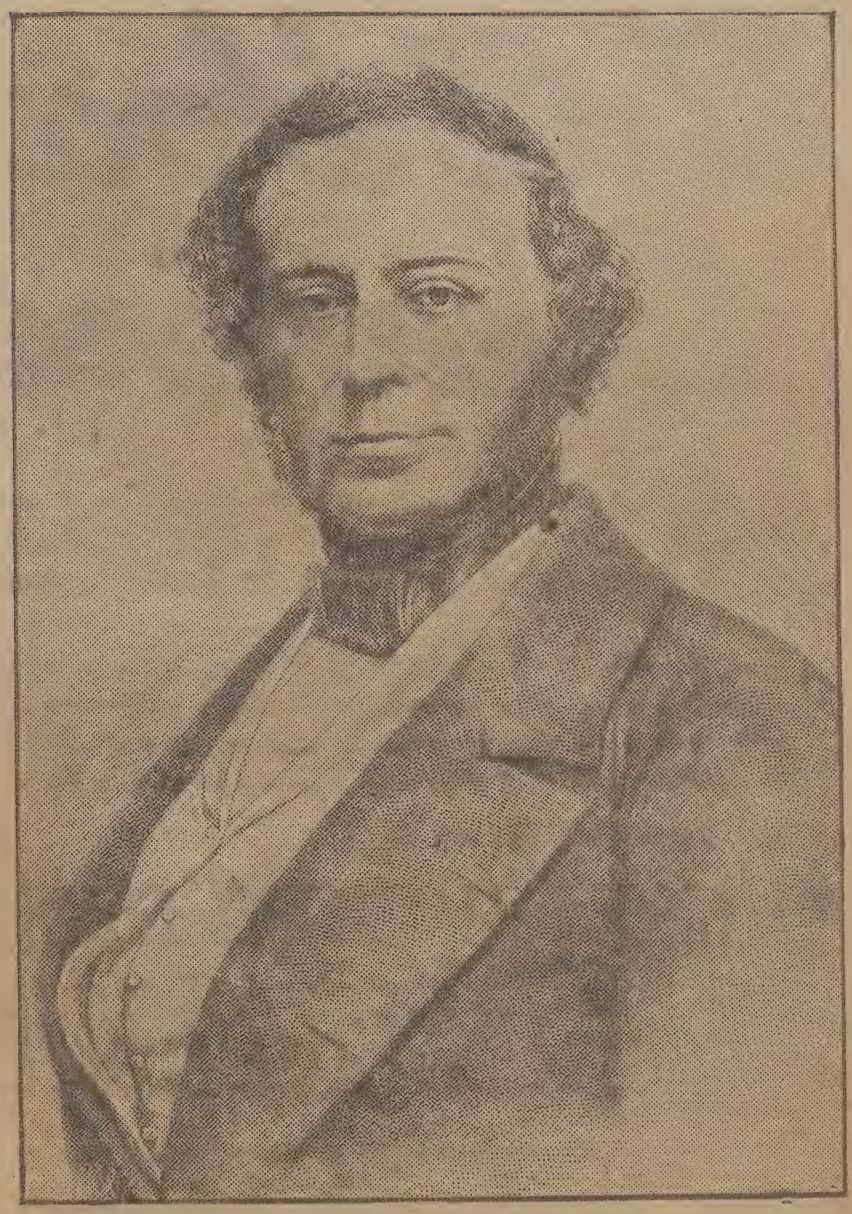
The Sig-Val Children's Club of Dorchester, wearing costumes of the Swedish provinces of their ancestors and carrying American and Swedish flags, presented a colorful program of patriotic recitation, singing and dancing under the direction of Mrs. Eva I. Barnie. Leading the procession of brightly-costumed children were Ralph Jacobson, five, of Watertown, and Constance Peterson, four, of Dorchester.

The mechanical genius of Ericsson, who became an American citizen, was reviewed by Roland S. G. Frodigh of Worcester. Other speakers who paid tribute to Ericsson and to the part played by Swedes and those of Swedish ancestry in the development of America included Dr. George E. Nelson of Worcester, a member of the executive council, and Elmer C. Nelson, member of the Governor's secretarial staff. Herman A. MacDonald of Beverly presided.

TOKIO March 8 (AP)

STORIES OF JOHN ERICSSON

No. 3—He Builds a Warship With Propeller.



JOHN ERICSSON.

This picture of Capt Ericsson, from "The Life of John Ericsson," copyright 1890 by Charles Scribner's Sons, shows the great inventor as he appeared in 1841, about the time he was engaged in building warship Princeton.

DURING the 13 years he spent in of Capt Stockton, for whom England, from 1826 to 1839, John previously built a vessel in

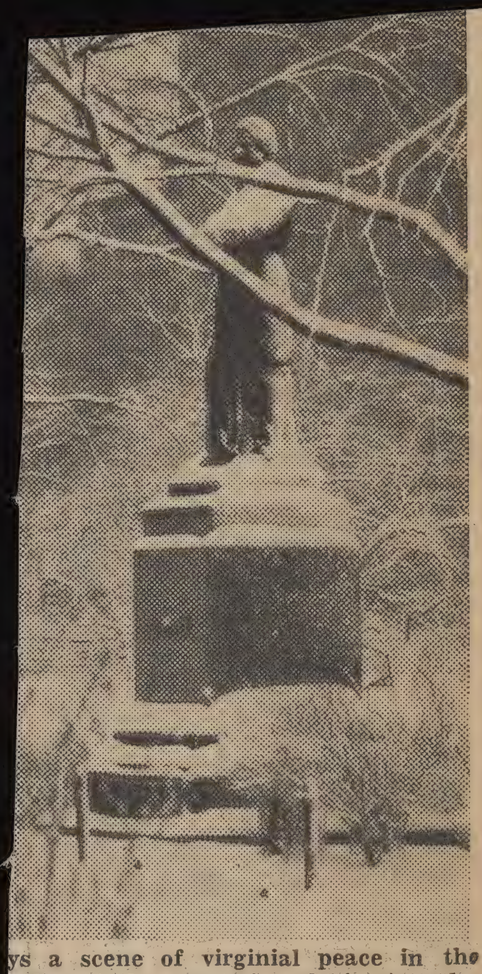
closures slowly ... from 60,000 acres to 4,000 in 1871, when London undertook to preserve what was left, and to recover the later inclosures. In 1882, at a cost of $2,500,000, 5,600 acres of Epping Forest were opened to the public. Easily reached from London, its nine square miles of almost unbroken woodland, which at High Beech or Queen Victoria's wood, rises 759 feet above sea level, form one of the largest and most beautiful pleasure-grounds in Europe. See E. N. Buxton's *Epping Forest*.

Ep'som, a small market town of Surrey, England, fifteen miles southwest of London. The springs which made Epsom so fashionable a resort in the latter half of the 17th

corner of the main building has a tower 200 feet high, and in the center, over the church, rises a cupola to a height of 312 feet. It was begun in 1563, and finished in 1584. It held one of the finest collections of pictures in Europe, until 1837, when a hundred of the best of them were taken to Madrid. The library, injured by fire in 1691, and by the French army in 1808, still contains over 30,000 volumes, and is rich in ancient manuscripts, especially those written in Arabic. The burial place of the royal family, called the "Pantheon," is an eight-sided room beneath the church. The kings of Spain, from Charles V. to Alfonzo XII., all but Philip V. and Ferdinand II., are buried here, in marble tombs, placed one above another, in niches in the wall. The Escurial was much injured by fire in 1872.

Esdraelon (*es-drā'ē-lon*) or **Plain of Jezreel,** a valley in Palestine, extending along the river Kishon from Mt. Hermon to Mt. Carmel. It formerly was a fertile plain, and was in the shape of a triangle, its longest side measuring eighteen miles in length. Here Gideon defeated the Midianites, and in 1799, the French under Napoleon conquered the Turks. As late as 1867, the plain was annually overrun and wasted by the Arabs, but is now in a high state of cultivation. See *Haifa*, by Laurence Oliphant.

Eskimo (*es'kĭ-mo*) or **Esquimaux,** a people numbering about 40,000, which are spread over the most northern parts of America, the



ys a scene of virginial peace in the softened the memories of his struggles freedom.

That Blankets Winter Sports Fans

Ericsson made great progress in his chosen field and some of his inventions were notably successful. Among the more important were a machine for compressing air, a plan for artificial draft for steam boilers, a steam fire engine, and there were others of slightly less note

His screw propeller, however, had not found favor with the British admiralty and he had resigned his position in an English railroad and sailed for the United States.

Ericsson arrived in New York Nov 23, 1839. The main purpose of his visit to this country was to introduce his propeller. He did not intend to remain, but in a short time circumstances so shaped themselves that he took up his permanent residence here. The government officials here were almost as slow to grasp the significance of his great discovery as were the officials abroad. Private vessel owners were more progressive, and over 40 merchant ships were equipped with the screw propeller with uniform success.

In the navy opposition to the idea was backed by the most stubborn prejudice. The fact that the application of the screw propeller to the merchant marine had been a success had no weight with the hard-shelled mariners of the navy. There were no steam vessels in the navy at the time and the officers wanted none. They contended that such vessels would be absolutely worthless for any purpose except transportation.

Ericsson, however, never lost confidence in his invention, nor in the belief that the time would soon come when his most determined opponents would be forced to admit his claims. He took up his residence in New York city.

At that time he was 36 years old and of striking appearance. While not a handsome man in the general acceptance of the term, he had a well-built military figure, was well set up, with broad shoulders and head well placed. His feet and hands were rather large. He had expressive features, brown, curly hair, fair complexion and jaws square and firm set that clearly indicated the character of the man.

In matters of dress he was extremely particular, but never quite to the point of being dandified.

His wife, who had remained in England, came to the United States shortly, but she did not make an extended stay. She could not adapt herself to her new surroundings and her husband was so engrossed with his great prospects that he had little time for domestic life. As he aptly phrased it in later years, "she was jealous of a steam engine." She soon returned to England and they never met again, although they kept up a correspondence throughout life.

At last Ericsson's great opportunity came. In the navy Capt Stockton had always stood his friend. Congress awoke from its lethargy and, in spite of direful prophesies, authorized the building of a war vessel equipped with a screw propeller. Through the influence

No. 4—Building the Monitor; ia tomorrow's Globe.

of Capt Stockton obtained the ... sion to build the vessel. He realized ... supreme test and accepted ... plunged into the work with ... energy, designing, planning, su... ing. Nothing, however small, ... to escape his notice, no detail wa... insignificant for personal super... and when the day came and he tur... over the finished craft, the creature of his brain, shaped and fashioned under his watchful eyes, he was willing to abide by the result, he was anxious for the verdict.

He alone realized what the building of that one warship meant in the world's history. In his boyhood days in Sweden he had dreamed of a war machine that should make his own small, weak country a power, a machine against which the wooden walls of Britain's navy would be no more than eggshells. The dream of his boyhood had grown with his manhood, and now in a measure he saw it realized in his new warship—the Princeton, to the command of which his friend Stockton was assigned.

The age of iron had begun, and a new era in naval history was opening. The propeller was substituted for paddle wheels, the vulnerable machinery was placed below the waterline and the draft of the furnaces was made independent of the smokestack, that might be shot away. And that was not all. A critic, referring to the Princeton, says: "When the Princeton, propelled by Ericsson's screw and armed by Ericsson's gun was launched, the war between armor and projectiles began."

John Ericsson's genius revolutionized naval methods and compelled the reconstruction of a great navy by every power.

Ericsson's success was clouded by a very unhappy incident. May 28, 1844, was made a memorable occasion. President Tyler, members of the cabinet and other distinguished guests were entertained on board the Princeton, but the entertainment ended in a tragedy. After the members of the party had inspected the ship the great guns were fired several times. Part of the company had gone below and were sitting at a banquet when Sec of the Navy T. W. Gilmer requested that one of the big guns be fired again. Capt Stockton gave the order and it was fired. It burst and killed Sec of State Upshur, Sec of the Navy Gilmer, Capt Beverly Kennon, Virgil Maxey, Col Gardiner of New York and a colored servant of President Tyler, and seriously wounded several of the crew. There were 200 women on board, but fortunately they were all below and none was injured.

The Princeton created a great sensation wherever she appeared, both in this country and abroad. In its new-born enthusiasm this country looked forward hopefully to the day when the navies of the world could be defie—but little was really done however. On the other hand England began the reconstruction of her navy at once.

It was to be Capt Ericsson's fortune within a few years to star[t] the naval authorities of the world again.

PAY TRIBUTE TO ERICSSON'S LIFE

Coolidge and Crown Prince of Sweden Speak at Dedication

NOTABLE GATHERING ATTENDS EXERCISES

WASHINGTON, May 29 (AP)—The memory of John Ericsson, designer and builder of the ironclad Monitor, was acclaimed by two nations today when President Coolidge and Crown Prince Gustavus Adolphus of Sweden joined in dedicating a statue to him on the banks of the Potomac close to the Lincoln memorial, after it had been unveiled by the Crown Princess Louise.

Hailed by the President as a patriot who belonged to both American and Sweden, the land of his birth, and as "a great American," Ericsson was characterized by the Crown Prince as "the incarnation of our desires and hopes for an unbroken friendship with America."

CHERISHED FRIENDSHIP

It was for the primary purpose of attending the dedication that the Crown Prince and Princess came to the United States, and he took opportunity to carry out the commission of his father, King Gustaf, to inform the American Chief Executive and the American people of Sweden's cherished friendship for the United States.

He also expressed his "heartfelt thanks" for the welcome accorded him and the Crown Princess.

Discussing the character and genius of the man who came from Sweden and in the critical days of the civil war constructed the Monitor, President Coolidge pointed to Ericsson as exemplifying Americanism and as "a pre-eminent example of the superb contribution which has been made by many different nationalities to the cause of our country."

Swedish organizations from many sections of the country, particularly the middle west and northwest, came to Washington for the occasion, some of them traveling by special trains. They gave a warm welcome to the Crown Prince, who was dressed in full military uniform and as he mentioned the names of great Americans brought his gloved hand to salute. He is a major-general in the Swedish army.

CROWN PRINCESS IS GIVEN OVATION

President Coolidge also was applauded especially as he pointed to Ericsson's life as an example in Americanism and the Princess was given an ovation when she unveiled the memorial.

As the bunting was removed, carrier pigeons were released by sailors who stood at attention in their white uniforms about the base of the monument, and the flags of the United States and Sweden were unfurled while a salute of 21 guns was fired from an eagle boat close by in the Potomac.

The occasion was unprecedented in that for the first time in the history of monument dedications here the memorial was not completed for the unveiling. Due to delays in the work, the figure of Ericsson, who is seated before a super-imposed group, representing vision, adventure and labor, had not been carved out of the 15-ton granite block prepared for it, and in its place was set a plaster model. It was decided to resort to this expedient as the Crown Prince had arranged to come to America at this time for the ceremony.

Mrs. Coolidge accompanied the President to the dedication and present was a distinguished audience which included Chief Justice Taft, Vice-President Dawes, Speaker Longworth, members of the cabinet, Senate and House, and diplomats. Secretary Wilbur of the navy department presided.

FROM HIS BIRTHPLACE

A feature was the reading by the Crown Prince of a radiogram from the town in Vermland province where Ericsson was born in 1803, saying:

"John Ericsson's birthplace asks to be permitted to extend this warm greeting to the magnaminous American nation that made possible for the fulfilment of his creative in which America is now paying full tribute in this memorial."

Music was furnished by the marine and navy bands, and the invocation was pronounced by the Rev. G. A. Brandelle, president of Lutheran Augustana synod, while the presentation of the memorial was by Senator Fess of Ohio, chairman of the John Ericsson memorial commission. The sculptor, James Earl Fraser of New York was presented and bowed his acknowledgments.

At the conclusion of the ceremony "Taps" was sounded and the benediction was given by the Rev. James E. Freeman, Episcopal bishop of Washington, as wreaths from scores of organizations throughout the country were deposited at the base of the monument.

The American Union of Swedish Singers sang Swedish and American songs during the ceremony, previously having visited the White House, where they were photographed with the President and Mrs. Coolidge, whom they serenaded.

The Swedish clubs which came here in force for the occasion assembled at the New Willard tonight for a banquet.

PRESIDENT'S ADDRESS

President Coolidge's address was in part as follows:

While it is eminently proper for us to glory in our origin and to cherish with pride the contributions which our race has made to the common progress of humanity, we cannot put too much emphasis on the fact that in this country we are all bound together in a common destiny. We must all be united as one people. This principle works both ways. As we do not recognize any inferior races, so we do not recognize any superior races. We all stand on an equality of rights and of opportunity, each deriving just honor from their own worth and accomplishments. It is not, then, for the purpose of setting one people above another that we assemble here today to do reverence to the memory of a great son of Sweden, but rather to glory in the name of John Ericsson and his race as pre-eminent example of the superb contribution which has been made by many different nationalities to the cause of our country. We honor him most of all because we can truly say he was a great American.

GREAT MEN PRODUCT OF GREAT PEOPLE

Great men are the product of a great people. They are the result of many generations of effort, toil and discipline. They do not stand by themselves; they are more than an individual. They are the incarnation of the spirit of a people. We should fail in our understanding of Ericsson unless we first understand the Swedish people both as they have developed in the land of their origin and as they have matured in the land of their adoption.

This memorial by which we rededicate America to spirit which Ericsson represented stands most fittingly by the bank of the river on which floated the first craft with which he undertook to benefit this government, in the shadow of the majestic temple which has been reared to the fame of the immortal Lincoln, whose cause he served, and within sight of the lofty monument that recalls the name of Washington, whose country he helped to save. As the ceaseless throng of our citizens of various races shall come and go, as they enter and leave our Capital city in the years to come, as they look upon their monuments and upon his and recall that though he and they differed in blood and race they were yet bound together by the tie that surpasses race and blood in the communion of a common spirit, and as they pause and contemplate that communion, may they not fail to say in their hearts, "Of such is the greatness of America."

API

GREAT

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THE MAN

CKARD MOTOR
Show
1089 Common

E "PILGRIMAGE" BY

Left to right—John Gilman, Wellesley; Hollis Whalin, Newton Centre; Franklin Huntress, West Newton; David Lo Howard, John Whittemore, Brookline; Howard Pry, West Ne the bishop and the others are cast as monks and acolytes.

NEWTON SCHOOL PUPILS WILL PRESENT MASQUE

"Pilgrimage," an anniversary school masque, will be given by the pupils of the De Witt Clinton riebberd school at Newton on Wednesday afternoon, for the benefit of Newton Hospital building fund. The cast is composed entirely of members of the school and the play was written by Leighton Rollins, master of the lower school. The presentation will be on the school grounds at 83 Cotton street, Newton.

WAKEFIELD BUDGET OF $1,036,000 SETS RECORD

With Wakefield's long series of town meetings ended, the records show that

DSI

Inventor of the Monitor revolving Turret.

Saratoga Springs 23rd Nov/65

James Parton Esqr

Sir

I have taken the liberty to enclose you a handful of papers upon the subject of Harbour Defence with my compliments - thinking the papers might interest you, at the same time trusting you would pardon the liberty I take in so doing - Representatives of some of the first Foreign Powers have applyed for, & have furnished them

Very Respectfully Yours
Theodore R Finely

Finely

Ericsson

Ashland House,

H. H. BROCKWAY,
Proprietor.

4th Avenue & 24th Street,

Mar. 12 Newark, N.J.

New York, Nov. 9 1885

Lieut. Wm H. Jaques,
U. S. N.
Dear Sir:

On Saturday before leaving Washington, I received a dispatch and letter from Capt. Ericsson, wishing to examine the manuscript you prepared on his submarine gun & projected torpedo, for publication by Putnams, and offering to pay $300 for putting the same - provided the matter is satisfactory to him, or can be made so by amendment, & by your consent. He is now in a hurry to have this done.

I spent half day yesterday in Washington looking for you, and could not get any positive information of your present whereabouts.

Ashland House,

4th Avenue & 24th Street,

H. H. BROCKWAY,
Proprietor.

New York, ... 188....

At the Navy Dept. Bureau of Navigation, I was informed that you was there 2 or 3 days before, & the Chief Clerk had the impression that you had gone to Alabama, with Gen.l Hawley, on a brief trip. I obtained your Home address, and forward this accordingly.

Capt. Ericsson is feeling very well about his Submarine artillery, for reasons which will be known soon. I wish you could see him.

I shall return to Washington the last of this week, and I will look for you again. I enclose my Card, so that you may know where to address me.

Truly Yours, A. H. Conger

Captain Ericsson is much obliged and returns this as it must be the only copy you have. He is glad that the French are made thoroughly acquainted with the subject of submarine artillery by Captain Boschi's translation of your excellent work.

Taylor.

F.

Lieut. Jaques U.S.N.

Dated		Answered
Mar. 26 1887	New York	Mar. 28 1887

forget the utter disgust, with which he received my report, and the great pains he took to convince me, that it was contrary to the laws governing bodies moving through so light a fluid as air.

However one fact was undeniable the torpedo never reappeared but remained in the mud and is probably there yet.

Considering now that after this every thing possible was done to prevent the torpedo or projectile from entering the water smoothly or at a proper angle, and that the inclined planes on the front were continually altered, but never with satisfactory results, it is no wonder that the report seems unsatisfactory. If the projectile ever showed any deviation in the horizontal plane

New York January 16th 91.

Mr W H Jaques
Bethlehem Pa.

Dear Sir

The letter I sent you this afternoon was written in great hurry and wants overhauling if you should use it before the board. Please correct it to suit yourself. On page 3 the word longitudenal should have read taugential.

I have no doubt Mr Beshnells strong imagenation carried him away when addressing the board, and I am sorry, that they have got hold of the report.

The Sandy Hook experiments in 1879 originated ~~from~~ on a request

from Com Jeffers to Captain Ericsson, that he should produce an aerial torpedo, that could be projected for a considerable distance through the air, and then spin along the surface of the water for the remainder of its course. Capt E. agreed to this and stated his experiment with the idea, that the torpedoes longitudenal axis would retain its orgenal inclination as fired from the gun.

If this idea of his had proved correct the problem would probably been solved to his and the Commodore Satisfaction, though I doubt very much, that he could have produced a sufficiently light projectile, that would be able to withstand the tremendous strain produced be being slammed flat on the surface of the water.

As the object aimed at was never explained by Capt Ericsson to any of the officers connected with the trial, I have no doubt, that the whole performance looked ridiculous to them. In fact I did not know myself for a long time, what he was driving at, but I was from the start impressed with the fine manner in which the projectile entered the water and took particular pains to express my admiration of the small disturbance produced on the surface when the torpedo dived in. I shall however never

during its aerial flight it was but slight and either produced by the surgeing of the scow, which was very minute in proportion to the guns, or else by the turning of the inclined plane from a horizontal position. But after it struck the water and recochted on the bottom there was no telling where it would go and it was advisable to keep a good distance off.

I saw Leutenant Commander C E Vreel some time ago on the New York Navy Yard, he told me he should be glad to go before the board and help me all he could, so if you think he will be called or asked to give his opinion please inform, as I would like to

No. 10
DRAWER 26

York, January 16th, 1891.

Answered
JAN 17 1891

onducted in 1879, I beg to

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owder. The projectile

This shot proved that such

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keep its longitudinal axis tangential to its trajectory.

The range was in this instance some 500 feet, and the projectile entered the water at an angle of about 15 degrees and was forced through 18 feet of water into the mud, so that it could not be recovered. The action of this shot in the air was perfect and could not be better for the object desired by us, but as Captain Ericsson was aiming at a quite different result he was naturally disgusted,

talk the matter over with him before he gives his opinion.
The work on projectiles and Breech mechanism is progressing satisfactorily, I hope you will hurry up the gun and let me know as soon as possible whether you can finish the breech and block in Bethlehem.

If you can do anything to get the Army board to give us an order do not neglect it. I am convinced we will succeed and should much prefer to have one of the 15 inch guns on Fort Hamilton, where we would have a good range and 70 to 80 feet water to fire in it is the deepest water we have got round New York. At Sandy Hook it is quite shallow and not over 28 to 30 feet and a considerable distance from the beach.

Yours very truly
J. F. Ericsson

Received JAN 17 1891
Answered JAN 17 1891

No. 10
DRAWER 26

York, January 16th, 1891.

Answered JAN 17 1891

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No. 10
DRAWER 26

New York, January 16th, 1891.

Mr. Wm. H. Jaques,

Bethlehem, Pa.

Received JAN 17 1891

Answered JAN 17 1891

Dear Sir:-

Regarding Ericsson experiments conducted in 1879, I beg to say that the object Captain Ericsson desired to accomplish was to get the projectile to fall flat on the water and run on the surface propelled by its remaining vis viva. It was his firm conviction that the longitudinal axis of a long projectile would, like that of a rifled shot, retain its axial inclination throughout the trajectory. The first shot in the North River was fired with an elevation of about 5 degrees and a charge of four pounds of powder. The projectile weighing 1150 pounds, being 18 feet long. This shot proved that such a projectile without any rotary motion would act like an arrow and keep its longitudinal axis tangential to its trajectory.

The range was in this instance some 500 feet, and the projectile entered the water at an angle of about 15 degrees and was forced through 18 feet of water into the mud, so that it could not be recovered. The action of this shot in the air was perfect and could not be better for the object desired by us, but as Captain Ericsson was aiming at a quite different result he was naturally disgusted,

first on account of losing his projectile, and second by having his theory upset.

The gun and scow were therefore towed to Sandy Hook, and anchored in the Horse Shoe, where the projectile could be fired inshore in shallow water with hard sandy bottom, thereby making its recovery easy.

In the experiments carried on here inclined wooden fins or blades were attached to the head of the projectile, with the object of keeping this up in the air, so that the tail would strike the surface of the water first. This was, however, not successfully accomplished, and in most cases the nose of the projectile would strike the hard bottom and recochet, flying up in the air again and land, in some instances two to three hundred feet on either side of the spot where it entered the water. I suppose this erratic behavior of the projectile is what is referred to in the Navy Department report; it was caused by boulders in the bottom, which would deflect the projectiles head. The projectile's flight in the air was never erratic to any extent before the inclined fins were attached to the nose. But by introducing these without ballasting the projectile properly and without providing guides in the gun for keeping the fins horizontal, it is but natural that in some instances the axis of these front fins

might not have been in a true horizontal position when fired, and therefore affected the projectile's horizontal path in the air to some extent.

What I insist on is: That a long symmetrical projectile properly ballasted and with its center of gravity well forward will proceed through the air without wobbling and enter the water with its axis ~~longitudinal~~ tangential to its trajectory.

Lieutenant Commander C. H. West, who conducted most of the trials, will, I am convinced, sustain me in this, and I have no doubt that he will willingly appear before the Board and explain his views when so requested.

I regret that I have not a copy of the Department's report, as I believe I could explain much in it that may seem unsatisfactory. The quixotic action of the projectiles in the Sandy Hook experiments were due to two causes: First, that the depth of water fired in was but 5 to 7 feet, and the projectile's nose, therefore, struck the hard pebbly bottom at an angle favorable to recocheting. Second, that no means were adopted to insure a true horizontal position of the inclined fins forward, which in case the projectile turned on its axis would affect its horizontal as well as vertical trajectory.

Yours very truly,

V F Lässoe

* Lassoe's letter and card

JAN 16 1891

June 19/60

My Dear Sir

I have not time to enter into detail in regard to Mr Pitzold - His letter impresses me most unfavorably - even if it did not, I should not feel justified in sending drawings of the calorie engine to, and employing as agent, a servant who desires the letters to be sent to his lodgings for fear his master should get wind of the negotiation - More particularly when that master is admitted to be the "most enterprising & talented" man in his line in Prussia and rich besides. Again Mr P. claims to have made the only air engine in all Germany & and is now engaged in "of course" changing the appearance of Mr Laubereaus engine which he has been ordered to construct - He is also about dispensing with water in said engine and will send you drawings in time to show that he has anticipated the whole affair - All you friend wants is a detailed drawing of the calorie engine, the construction of which he has not, so far, been able to get hold of, although, as he admits, he has followed every step I have taken Laubereau's engine is identical with my engine in principle and most of its detail all but using the same air instead of taking it in at every stroke - His heater & supply piston are the same and he has done

175
[illegible] [illegible]
3/25

DSI

what I have so often told you is the only thing that can be done to make an efficient air engine, to divide my principle up into two cylinders — Loubereau's attempt however is clumsily carried out and practically worthless — Let Mr Petzold however take in fresh air at my stroke, and something may be effected of practical utility — But to go to work understandingly your friend wants the drawings of my engine and with those take my word for it, he will come before the world in good time, with an air engine worthy of the Prussian soil —

But suppose that Mr P. is as "honest" as he tells you he means "to be in future intercourse" would it be right to select a poor inventive Berlin draughtsman when a wealthy & enterprising Berlin manufacturer of great reputation would willingly become the agent? —

You say you received a copy of my patent from Washington last week — Is that the place you go to when you want such copies? The Washington patent is insufficient, as I have said before, for Europe — The claim and other matters were frittered away — Württemberg demanded a copy, it is true, but no other country does.

Yours truly J. Ericsson

over!

I retain Mr Petzold's letter as I want to take some notes from it.

J. Ericsson fresh water apparatus for Steam Engines.

Patented April 3d 1849.

Fig: 1.

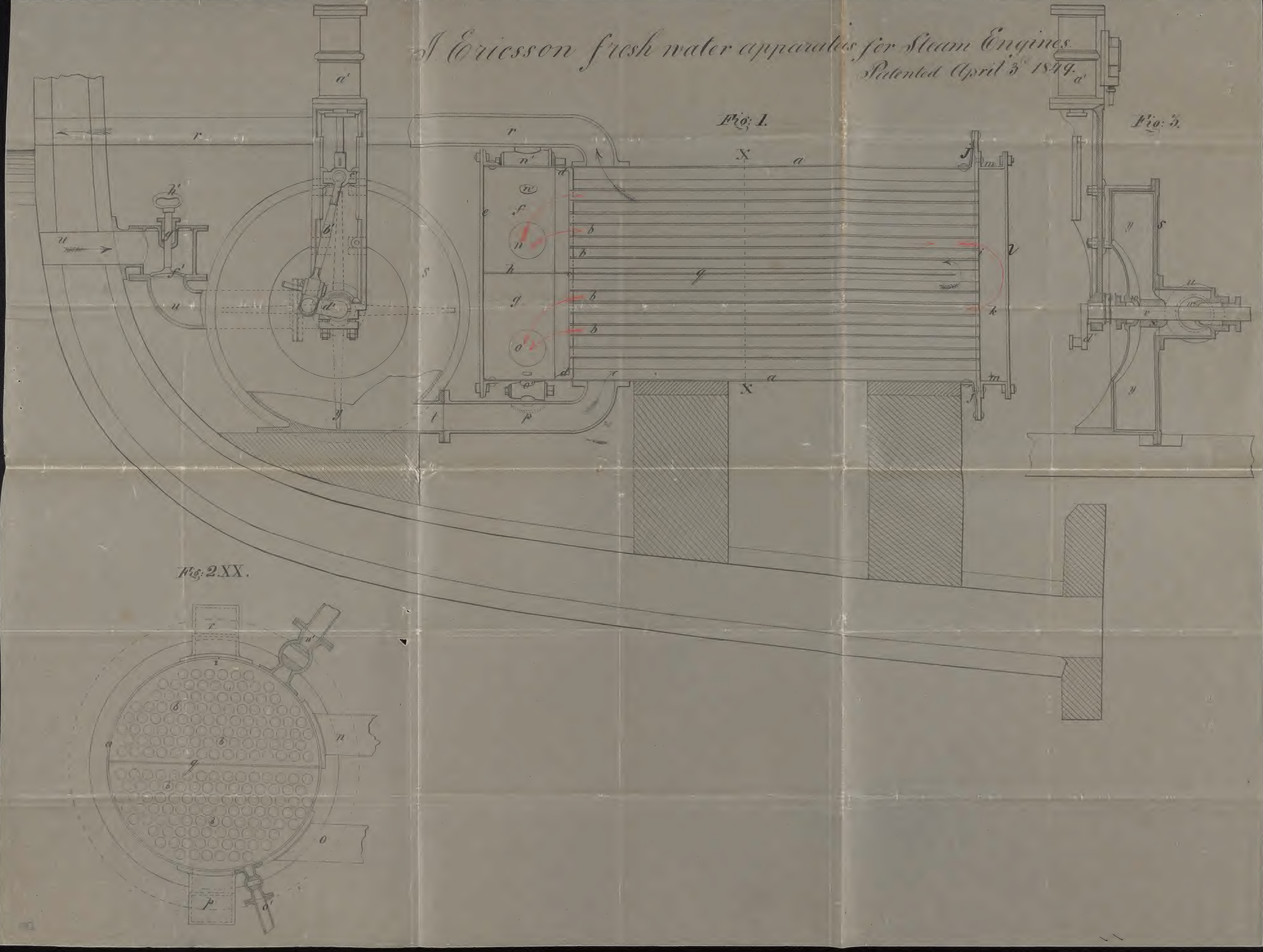
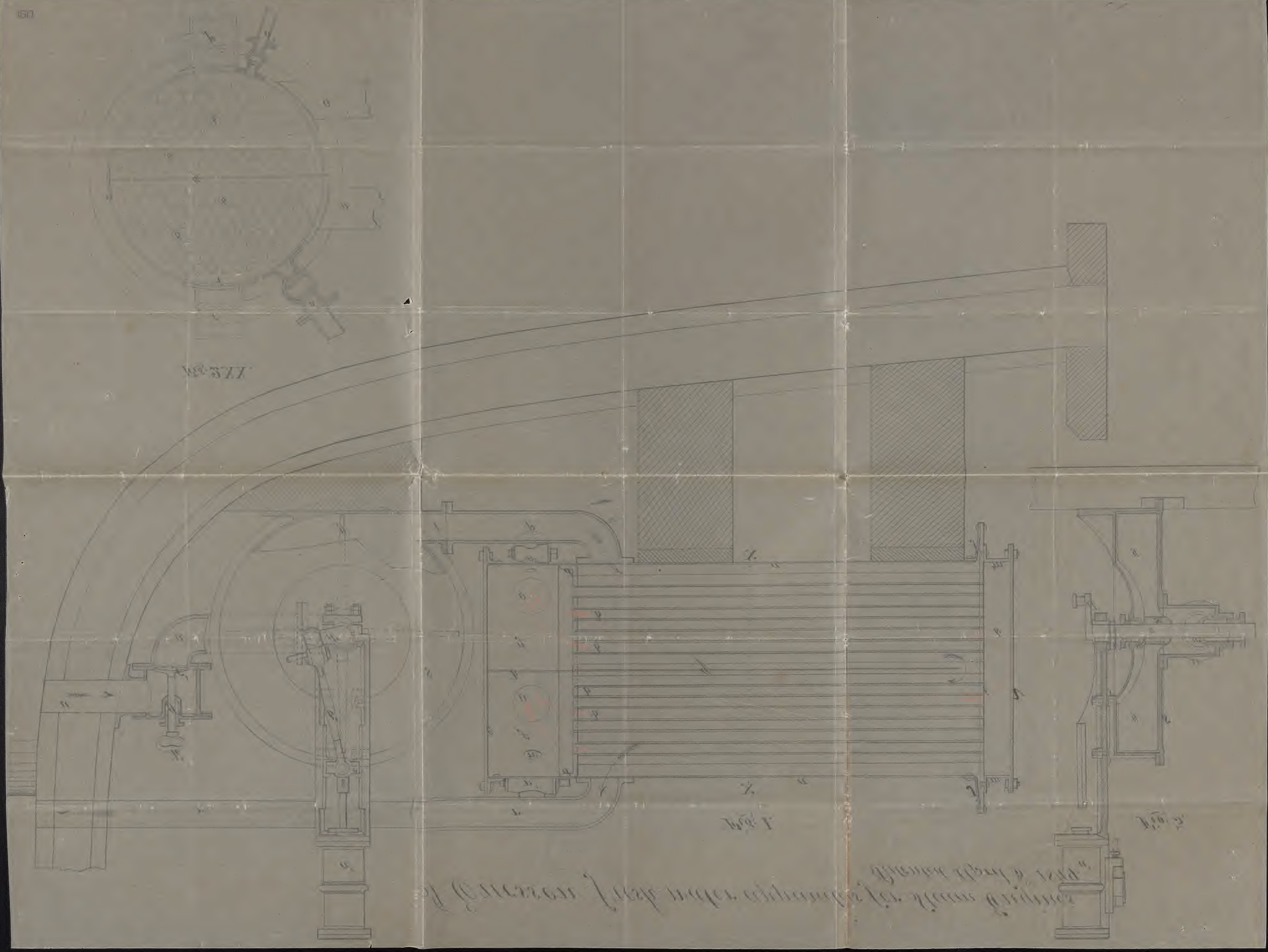


Fig: 3.

Fig: 2.XX.

No. 377



/ P.C "CALORIC"

To all to whom these Presents shall come:

Be it Known, that I John Ericsson, of the City, County, and State of New York, have invented a fresh water apparatus for steam ships, boats and other vessels propelled by steam engines and that the following is a full clear and exact description of the principle or character which distinguishes it from all other things before known, and of the manner of making, constructing and using the same, reference being had to the accompanying drawings, making part of this specification in which figure 1 is a longitudinal vertical section: figure 2 a cross section of the condenser taken at the line (XX) of figure 1; and figure 3 a cross section of the pumping part of the apparatus and the auxiliary engine by which it is operated. The same letters indicate like parts in all the figures

The object of my invention is to condense the steam without admixture with the condensing water that the water produced by the condensation may be carried back to the boiler to prevent the evil consequences arising from the use of water that contains in solution or suspension mineral or other solid matter and to condense the steam which escapes from the safety valve, and

also for the production of fresh water for any other use. In my fresh water apparatus I use a tubular condenser through the tube of which the steam passes, and is condensed by the cooling influence of a current of cold water taken from the outside of the vessel or ship, and made to pass outside of the tubes, and to this end the first part of my invention consists in combining the condenser of a steam engine for the propelling of a ship or vessel with a pump which receives the condensing water from outside the ship or vessel and causes it pass through the condenser, the said pump being operated, irrespective of the engine that propels the vessel by means of an auxiliary engine whereby the amount of condensation can be regulated independantly of the working of the engine that propels the vessel

The second part of my invention consists in connecting the condenser with the boiler or boilers or any part thereof, in addition to its or their connexion with the exhaust of the engine, when the pump which carries the condensing water through the condenser is operated by an auxiliary engine by means of which double connexion not only is the steam that es-

capes from the safety valve condensed to be carried back to the boiler but the boiler or boilers may be used to distil and produce fresh water for any purpose desired when the engine is not employed for propelling the vessel

And the last part of my invention consists in connecting the tubes of the condenser with the cylinder or outer case thereof by connecting one or both of the diaphragms, to which the ends of the tubes are secured with the boiler cylinder or case by means of a ring and flanch or the equivalent thereof, so that the said ring or flanch may bend to adapt itself to the unequal contraction and expansion of the tubes and cylinder or outer case of the condenser.

In the accompanying drawings (a) represents a horizontal cylinder within which are arranged a series of small parallel tubes (b) One end of the said tubes are secured in the usual way or any other desired and appropriate manner to a diaphragm (c) which has a turned flanch through which rivets or bolts (d) pass to secure it to the cylinder (a) and within such distance of the head as to leave

a sufficient space between it and the head (e) of the cylinder for two chambers (f) and (g) these two chambers being separated by a horizontal diaphragm or partition (h) The other ends of the tubes are in like manner secured to another diaphragm (i) at the other end which said diaphragm instead of being bolted directly to the end of the cylinder in the usual way is bolted to a ring (j) near its outer periphery, the inner periphery thereof being provided with a turned flanch bolted to the end of the cylinder, but in stead of this the end of the cylinder may be made with a flanch corresponding in size and form with this ring and the diaphragm bolted to its outer periphery. The said ring or flanch should be slightly conical or bent that the diaphragm may be at some distance from the end of the cylinder; that it may move in and out to adapt itself to the unequal contraction and expansion of the tubes and cylinder by reason of the passage of the steam through the tubes and the water for the condensation through the cylinder. A chamber (K) is formed at this end of the cylinder by means of a head (l) secured to the diaphragm by

means of a double flanched ring (m) and screw bolts, that it may be removed to give access to the tubes,

The upper chamber (f) at the end of the cylinder first described communicates by means of a pipe (n) in any desired manner with the exhaust pipe of the engine and by another pipe (n') also with the escape pipe of the boiler and these connexions should be governed by appropriate cocks or valves so that either can be closed or opened at pleasure. Either of these connexions being opened the steam passes into the chamber (f) thence through the range of tubes above the diaphragm or partition (h) to the chamber (K) at the other end and thence back through the lower range of tubes to the lower chamber (g) which communicates by means of the pipe (o) with the air pump and supply pumps of the engine or this connection being closed by means of a pipe (o') with any desired receipient with which the pipe (o') may be connected The direction of the passage of the steam, and the water produced by its condensation through the tubes is indicated by the red arrows,

The steam in passing through the tubes is condensed by the cooling influence of a constant current of cold water

which passes out side of the tubes and which travels in a direction the reverse of the current of steam as indicated by the black arrows, so that the steam as it parts with its caloric is constantly approaching a cooler medium The water for the condensation is freed into the cylinder (a) near the diaphragm (e) through a pipe (p) and passes around the lower half of the series of tubes until it strikes the other diaphragm (i) thence it passes up around the end of a horizontal position plate (g) on the same plane (h) which plate (g) extends from the diaphragm (e) to within a short distance of the other diaphragm (i) and from this the water passes around all the upper half of the tubes to the first where it escapes at the top through a pipe (r) that discharges through the side of the vessel above the water line

The water for the condensation is impelled through the condenser by a rotating pump the case (3) of which is provided with a tangential pipe (t) at the lower part connected with the pipe (p) by the condenser And this case is also provided with another pipe (u) which extends from the centre

thereof to and through the side of the vessel, and so far down as to be always below the water line that the water may flow through it to the inside of the pump case In the centre of this case is adapted a shaft (b) the journal of which runs in appropriate boxes (w w) in the case and provided with stuffing boxes to prevent the escape of water; and on this shaft is a hub (x) with four arms or vanes (y) accurately fitted to the case and yet to rotate without touching it.

By the rotations of these arms or vanes the water is drawn in near the centre and by centrifugal force carried out through the tangential pipe (t) to and through the condensor. And the required rotation of the pump is given by an engine (á) secured to the casing of the rotary pump as represented in the drawings, and the connecting rod (b') which is jointed in the usual manner to the cross head (c') takes hold of a crank (d') on the shaft of the pump the said shaft being in the usual manner provided with an eccentric (é) for working the valves of the engine (á) which are not represented, as they may be on any of the known plans

The water supply pump which receives the water from outside the ves-

sel and which is for that purpose below the water line, is provided with a valve (f) the stem (g) of which passes through stuffing boxes and has a handle (h) by means of which the pipe can be closed at pleasure when it becomes necessary to give access to the inside of the pump.

From the foregoing it will be seen that by means of the auxilliary engine which operates the pump a constant current of cold water is carried through the condenser independantly of the working of the propelling engine of the vessel and as a necessary consequence the more the propelling engine labors by reason of head winds or rough water the more perfect will be the condensation and the vacuum thereby produced thus increasing the power of the propelling engine when power is the most needed whereas if the current of cold water were dependent on the working of the propelling engine the sum of the mass of water passing through the condenser would be exactly in proportion to the motion of the engine and therefore the condensation and vacuum would be decreased in the ratio of the decreased motion of the propelling engine

It will also be seen that by reason of the working of the pump which

impels the water for the condensation by means of an auxilliary engine and the double connexion of the condenser with the waste pipe of the boiler or boilers and with the exhaust of the propelling engine that whenever the safety valve is opened the steam issuing therefrom instead of being wasted will be carried through the condenser and condensed to be returned to the boiler thus avoiding the necessity of a seperate supply of water to make up for the waste by the escape of steam from the safety valve And that when the propelling engine is at rest the condenser can be used for the distillation & production of fresh water for any desired purpose on board ship for the condenser is thus when desired rendered entirely independant of the propelling engine

By passing a current of steam in a direction the reverse of the current of condensing water the greatest amount of caloric is extracted with the least amount of water. The condensing water in its passage through the condenser never reaches the point of evaporation and therefore mineral and other matter held in solution will not be deposited to incrust the apparatus And by insuring a constant and rapid current of water

around the tubes the danger of unequal contraction and expansion is reduced to the smallest amount and so small as to prevent all injurious effects by the mode above described of connecting one of the diaphragms, to which one end of the tubes are attached with the cylinder by means of the conical or bent ring or flanch

Although I have described the use of a rotary pump operated by a reciprocating engine for impelling the condensing water through the condenser, I do not wish to confine myself to the use either of a rotary pump or a reciprocating engine for this purpose, as a rotary engine may be substituted for the reciprocating and a reciprocating pump for the rotary, but I have described and represented this arrangement as the one which I have successfully essayed and deem the best. Nor do I wish to confine myself to the position or construction of the condenser and its connections, as these may be variously modified, so long as the principle of my invention or any essential part thereof is preserved

What I claim as my invention and desire to secure by Letters Patent is the combination of the condenser of a steam-

engine for the propelling of a ship or other vessel with a pump that receives the condensing water from outside of the vessel and causes it to pass the condenser when the said pump is operated by an auxilliary engine substantially as herein described

And I also claim the double connexion of the condenser that is with the exhaust of the propelling engine and with the boiler substantially as described when the said condenser is combined with a pump that receives the condensing water from outside of the vessel and is impelled by an auxilliary engine substantially as described

Witnesses
James Otis Sargent
John O Sargent

J Ericsson

Exd. L.S.

(2,000 was)

Patented April 3d 1849

Ericsson's Speech.

DSI

EMILY DRISCOLL 1966 115 East 40th St., New York, N.Y., 10016

106 ERICSSON, JOHN. A.L.S. 1 p., 4to, closely written. (New York) Nov. 28, 1859. From the inventor discussing the appropriate size of a suction pump and saying that it should be run longer. 35.00

ERICSSON, John
1803-1889

Part of an A. L. S. to the Editor of the "Evening Post" regarding further study of a ship's machinery

158. ERICSSON, JOHN. 1803-1889. Engineer and inventor. Established his fame in the United States with the ironclad Monitor, a significant Civil War weapon and a revolutionary change in naval engineering. A.L.S., two pages, quarto, 1860. With a supplementary document, eleven pages, folio, describing in detail his caloric engine, with a third piece, a folio pen and ink sketch of the engine. Three pieces. $175.00

Ericsson's correspondent is writing on behalf of Mr. Petzold, apparently a competitor in the production of a similar engine. Ericsson is annoyed by the manner in which he has been approached, and writes: "You say you received a copy of my patent from Washington last week — is that the place to go to when you want such copies? The Washington patent is insufficient, as I have said before, . . . all your friend wants is a detailed drawing of the caloric engine, the construction of which he has not, so far, been able to get hold of, although, as he admits, he has followed every step I have taken." Apparently the negotiations come from Prussia and Ericsson is concerned that this particular individual is not properly representing the principles. A fine letter, accompanied by the technical description of the engine and a complete and finished drawing.

GOODSPEED-64

115 **ERICSSON, JOHN.** American engineer of "Monitor" fame. A.L.s. 2½ pp., 4to. June 1, 1860. **$35.00**

About ships engines. ". . . As you say you are in treaty with other ship owners, I send you the plan of the Susan Howland's fix that you may be able to speak understandingly on the subject. . ."

Carnegie-68

Rendell - 1974
$75.00

86. ERICSSON, John. LS, 1p., 4to, New York, June 30, 1862. To Messrs. Lazelle Perkins and Company. Fine condition. Rendell-70 $75.00

"I enclose drawing [not present] of three wrought iron beams for a target which I have promised to make for the Navy Department, in great haste. Please forge these beams of your most malleable iron. Inserted between a series of one inch plating. These beams will have to stand very heavy firing, hence you must give me your best iron...." He then gives instructions for shipping the beams, concluding "the planing may be rough, but must be accurate in every respect." Rendell-70

162 **ERICSSON, JOHN.** Designed "Monitor." A.L.s. 1 full p., 4to. Jan. 3d (18)59. Carnegie-72 **$35.00**

Letter on technical matters relating to the "Waltham engine."

232. ERICSSON, JOHN. A.L.S., one page, 1858. Fine. $50.00

"I am going up to the foundry to see about a new lever for Mr. Sleepers' engine—I will strengthen it—The new 12 inch engines will not be liable to the trouble we have so far experienced," etc. Goodspeed-69

DSI

EMILY DRISCOLL 115 East 40th St., New York, N.Y., 10016

98 DOUGLAS, JAMES, Earl of Morton. L.S. 2 pp., 4to. London, Aug. 7, 1764. Writing to a member of the French Academy as president of the Royal Society, he sends his thanks for future Academy publications to which he is entitled. He already owns all "their Memoires from the

two thousand pounds, lent for the use of John and George Evelyn in 1648. The two documents. $85.00

161. EVELYN, JOHN. A.L.S., one page, small quarto, Wotton, July 1704. $325.00

Evelyn writes to his patron, the Earl of Godolphin. A very handsome letter of congratulations on Godolphin's receiving the Garter. Fine condition in cloth case.

GOODSPEED'S, 18 Beacon St., Boston **AUTOGRAPHS — 46**

DSI

$30.00

A most curious example of Elizabethan letter-writing, couched in extremely euphuistic style and containing the most extravagant compliments and fulsome flattery, reminiscent of satirical passages in the comedies of Shakespeare and his contemporaries.

Khayyam. ALS, 1p., 8vo, n.d. To Ellen Churchyard. $75.00

He is sorry that she was unable to see him when she stopped by, but he has been away. "You will find me here at dinner time, if you want to see me, & I can find you *something* to eat. I suppose we must leave the Geranium potting for the present."

91. FLAXMAN, John. English sculptor. ALS, 1p., 8vo, December 28, 1801. To William Delamotte, Oxford. Fine condition. $50.00

"As I suppose it has escaped your recollection, I have taken the lib...

and Sir John Fortescue. [6] $100.00

Addressed 'To our Lovinge friende Nathaniell Bacon Esqr. Collector for the Loan in this Country of Norfolke" and concerning "monies to be Levied by way of Loane to Queen Elizabeth."

207. [...] Robert Cary. One of the Queen's Captains when

Choctaw treaty. . ."

109 EDWARD AUGUSTUS. Duke of Kent. Father of Queen Victoria. L.s. 1½ pp., 4to. n.d. With the conjugate address leaf. **$12.50**

To S. B. March. Requests for the additions to his house; quarters for his kitchen staff, etc.

DSI

author. T.L.s. "Dreiser" in pencil. ¾ p., 4to. N. Y., August 4, 1930. **$22.50**

To James Oppenheim. "I recall the talk about new cities and how they should be laid out on a scale suited to motor life. I have never written anything about it . . . I

In reply to your favor of 12th inst. I have to inform you that ~~I cordially~~ my query was prompted by fact that I usually get hold - everything worth notice + I have always deemed it ~~I should~~ + more expedient wish to give the ~~facts~~ standard periodicals the facts than to let them publish romances concerning scientific work, which serve to mislead and depreciate from the Century, courteous demand Sirs I quoted ~~I should~~ a card from ~~Have you received~~ a copy of Mr. Tinsley's elaborate ~~so far~~ appeal of Nov. 1885. in which he gives such great emphasis to his invention of the revolving turret? What is

Your opinion of the
"Inner Shield Legislation
of Coach Devfbuca" ?

KENNETH W. RENDELL, INC.

Autograph Letters - Manuscripts

THE HISTORY OF MANKIND

KENNETH W. RENDELL
DIRECTOR

TEL. 617-776-3872 CABLES: AUTOGRAPHS BOSTON
62 BRISTOL ROAD
SOMERVILLE, MASS. 02144

ERICSSON, John. Engineer and inventor; builder of ironclad ships, including the *Monitor*. Autograph Letter Signed, one page, quarto, July 1, 1858. Fine.

"With a reduced admission of air the caloric jacket yesterday made 19½ and 20 turns at the deck - turning the center readily - under my 42 turns with perfect regularity of rotations although the center was so rough as to prevent a proper trial being made. I have indeed a further alteration of the bucket today in order to admit [a] full quantity of air being taken in. That done I shall hand the affair over to the bosses of Bay Ridge...." During the 1850's Ericsson was occupied with the caloric engine, an engine which would propel a ship by hot air. The *Ericsson*, a vessel using this principle, was built, however it was not a commercial success. The engines proved to be too large and heavy in proportion to the power developed and the speed was not up to commercial requirements. Ericsson also developed designs for caloric engines in small sizes for ordinary stationary use and over a period of years several thousand of these were sold for various industrial uses.

DSI

New York, April 4, 1885

To (General?) R. W. Johnson

Dear Sir:

Referring to the inclosed letter from Frank B. Green, I beg to inform you that having presented the plan of the Monitor with its numerous mechanical devices, as a gift to the Nation- a contribution to the good cause - I did not apply for any patents; nor did I ask or receive any compensation whatever for my labor as an inventor. Again, the fact has been established that the Monitor contains a greater number of original contrivances than any other Naval structure previously produced. It will be proper to mention also, that the Chief Engineer of the Monitor, the late Mr. Isaac----- prepared a statement showing that the record contained thirteen distinct patentable inventions.

I deem it important to mention that the motive engine of the Monitor was built under a patent which I obtained several years before the rebellion; but in settling with the Navy Department, I did not charge royalty for the same.

Yours very respectfully,

J. Ericsson

R.W. Johnson, Esq.

ABOUT THE "MONITOR"

170 ERICSSON, JOHN. Developed the ironclad "Monitor." A.L.s. 1½ pp., 4to. N.Y. April 4, 1885. **$40.00**

To (General?) R. W. Johnson. ". . . I did not apply for any patents; nor did I ask or receive any compensation whatever for my labor as an inventor. . . . the vessel contained thirteen patentable inventions . . ." Carnegie - 68

DSI

June 1t , 1860

My Dear Sir:

Pisante's big mill was made by the "Bordentown Machine Company", Bordentown, N. J. The small mill was furnished by a machinist down town, whose name I have forgotten. If you send to Pisante's office they can tell you the maker's name and address.

If you cannot keep an engine in order next door, it is fair to assume that it is badly made or badly marked - The trouble I take it is simply excess of draught, which enables the driver to make too hot a fire - When you say that 25 pounds pressure is used you mean inches of mercury or 12½ lbs . We found during our trials and reported that with 6½ or 7 lbs. the machines worked well at first. Our friends have got their ideas up and now like more speed and never desire 12½ lbs pressure -

Mr. Eily left Carhart's two or three weeks ago and is now in Boston unless he has been induced to return, which I cannot believe - What could I do by looking at the engines at Carharts? I have not a solitary suggestion to make whilst I am astounded at the duty performed by those engines- Red hot heating all the time I suppose explains the mystery, As you say you are in treaty with other ship owners, I send you the plan of Susan Howland's fix that you may be able to speak understandingly on the subject. I have given a copy to Banks to work from. Only look at the plan and return it by the bearer as it must be on board the ship today at 12 o'clock, our friend Captain Adams being desirous to show their Bosses what a fine fix we are getting up -

All is now in hand. Delamater makes the driving crank Links charging as attached to the engine as usual. Banks furnishes the hoister for

ISD

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My dear sir

the same price as charged for the Panama's the Long pump axle with Links for working pumps Gipsy as he delivers ~~our~~ on board ready for putting up at 8 cents a pound weight all round -

Captain Adams understands that the engine will not be sent on board until Monday morning and will not feel impatient.

I will give you copies of the plan now sent that you may have something to exhibit to those you approach in relation to ships.

Yours truly

J. Ericsson

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